

Application Serial No. 10/589,522  
Reply to office action of December 8, 2009

PATENT  
Docket: CU-5003

### **REMARKS/ARGUMENTS**

Reconsideration is respectfully requested.

Claims 1-23 are pending before this response. By the present response, amendments have been made to the claims, as no amendments have been deemed necessary. No new matter has been added. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the remarks contained herein.

In the office action (page 4), claims 1, 3, 5, 7, 9, 11 and 21 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 7,532,817 (Ko) in view of U.S. Patent Application Publication No. 2001/0038473 (Li). The et al. suffix is omitted in a reference name.

The rejection has been respectfully traversed.

(1) First of all, the applicant submits that Ko does not disclose the "Optical Channel Shared Protection Ring (Och-SPRing)" of claim 1.

The applicants direct the examiner to col. 6, lines 56-60 of Ko, which recites "the first protection module as described in FIG.2 has an optical coupler 232 that divides the optical signal into equal portions that are to be conveyed on the primary optical transmission path 235 and the secondary or protection optical transmission path 240". Those with ordinary skill in the art would understand from description above that Ko is related to **1+1 protection**. It is also known for the skilled in the art that the optical signals divided by the coupler 232 have the same wavelengths.

Referring to page 2, last paragraph in the background of the present application, "an Optical Channel Shared Protection Ring (Och-SPRing), which can be described as follows: a same bi-directional service connection is born by a same pair of optical signals with wavelengths of  $\lambda_1$  and  $\lambda_2$  on different segments of a topological ring...In addition, another corresponding pair of wavelengths  $\lambda_2$  and  $\lambda_1$  in the two optical fibers is taken as protection wavelengths for the working wavelengths  $\lambda_1$  and  $\lambda_2$ ". That is, there are a pair of wavelengths  $\lambda_1$  and  $\lambda_2$  in the Och-SPRing for respectively transmitting the optical signals on the working path and protection path. In other words,

Application Serial No. 10/589,522  
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the signals are transmitted on the working path and the protection path using **different** wavelengths, which is quite different from the "1+1 protection" of Ko.

As such, the applicants respectfully submit that Ko fails to disclose the **Och-SPRing** as claimed in claim 1.

(2) In the office action (page 4), the Examiner alleges that element "240" in FIG.3 of Ko teaches the first switch of claim 1, and the element "265" in FIG.3 of Ko teaches the second switch of claim 1.

In response, the applicants respectfully disagree, and respectfully direct the examiner to FIG.3 of Ko, from which it is clear that Ko's "240" denotes a secondary path, but not a switch.

Upon review of FIG.3 of Ko, the applicants submit that only the **1×2XBAR SW 246** and the **1×2XBAR SW 266** in FIG.3 of Ko may be somehow relevant to the first switch and the second switch of claim 1. However, claim 1 clearly defines that "A connection switching device for implementing Optical Channel Shared Protection Ring (Och-SPRing), used in a node of an optical network system with a working path and a backup path, **comprising: a first switch and a second switch...**". It is apparent from this description that the first switch and the second switch of claim 1 are in the same node of an optical network system. In contrast, the **1×2XBAR SW 246** and the **1×2XBAR SW 266** of Ko are **NOT in the same node**.

Referring to col.3, lines 25-30 of Ko, "a fiber optical protection apparatus has a first optical switch, a first fault detection device, and first switch control switch; the first optical switch is placed at the reception node of the optical link and has a primary input port connected to a primary optical transmission path and at least one secondary input port...". It can be seen from this description that the first switch is placed at the reception node. Now referring to FIG.3 of Ko, as to the primary path 235 and secondary path 240, NODE 2 is the reception node, therefore the **1×2XBAR SW 246** is placed at the RCVR 220 of **NODE 2**. And in respect to the primary path 255 and secondary path

Application Serial No. 10/589,522  
Reply to office action of December 8, 2009

PATENT  
Docket: CU-5003

260, NODE 1 is the reception node and therefore the 1×2XBAR SW 266 is placed at the RCVR 215 of **NODE 1**. That is to say, the 1×2XBAR SW 246 and the 1×2XBAR SW 266 are respectively placed at the NODE 2 and NODE 1, i.e., they are placed at **different nodes**.

Therefore, the applicants respectfully submit that Ko fails to disclose the **first switch** and the **second switch** of claim 1.

(3) In the office action (page 5), the Examiner alleges that Li [0008] teaches "the output port of the first switch connects and outputs the downlink service signals to a local drop path; and the local add path is connected with an uplink direction of the working path at the same time" of claim 1 of the present invention.

Again, applicant respectfully disagrees, and directs the examiner to Li [0007], which recites "...in order to perform this protection switching at appropriate times, a means and method must be provided to detect when protection switching should occur".

Further, with Li [0008] recites "...the nodes include a non-intrusive optical channel monitor at least on each working channel both on the add and drop side of the node, such that a monitor is present at both a head-end location where traffic is introduced to the ring and at a tail end location where traffic leaves the ring...". From this description, it is apparent that Li at best discloses to add a non-intrusive optical channel monitor on the add and drop side of the node to detect when protection switching should occur.

However, Li does not mention the feature **"the output port of the first switch connects and outputs the downlink service signals to a local drop path; and the local add path is connected with an uplink direction of the working path at the same time"** of claim 1 of the present invention."

In view of the above, the applicants respectfully submit that neither Ko nor Li, whether considered individually or in any reasonable combination, teach or even suggest all the technical features of claim 1. Therefore, the applicants respectfully

Application Serial No. 10/589,522  
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request withdrawal of the rejection under 35 USC 103(a) and earnestly solicit an indication of allowable subject matter at least for the reasons above.

With regard to claims 5, 9, and 21, the applicants respectfully submit that these claims include corresponding features of claim 1, and should be allowable at least for the reasons above. Accordingly, withdrawal of the rejection of claims 5, 9 and 21, is respectively requested.


With regard to claims 2-4, 6-8, 10-12, and 22-23 the applicants respectfully submit that these claims at least as they depend from one of claims 1, 5, 9, and 21, which are thought to be in condition for allowance for the reasons above.

For the reasons set forth above, the applicant respectfully submits that claims 1-23, pending in this application, are in condition for allowance over the cited reference. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the outstanding rejections and earnestly solicits an indication of allowable subject matter.

This amendment is considered to be responsive to all points raised in the office action. Should the examiner have any remaining questions or concerns, the examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,

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